

# SCIENCE & EDUCATION Impact

Benefits From the USDA/Land-Grant Partnership

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## Adding Value to Food and Fiber

Land-Grant scientists find new profit potential.

*Developing new products and new uses for old ones helps keep American food and fiber producers in the black. The ability to “go with the flow” of new knowledge and to respond quickly to the marketplace is a competitive advantage important to our economy and a proven profit generator for those with the foresight to get out in front. Staying attuned to what’s happening at the U.S. Department of Agriculture (USDA) and Land-Grant universities pays off for many producers every year as they explore new enterprises or improve existing ones.*

### Payoff

- **Trees that grow like weeds.** University scientists in **Washington** have developed a hybrid poplar that grows up to 15 feet per year, reaching a market height of 70 feet to 100 feet in just six years. Seven paper companies currently are growing nearly 100,000 acres of the trees, which should yield wood pulp worth \$243 million. Since the trees can be farmed like a crop, some companies soon may be able to forgo use of the forest as a source of trees.
- **Reversal of fortune.** The sweet potato industry in **Louisiana** was going sour until **Louisiana State** researchers developed Beauregard, an improved sweet potato variety uniquely designed for Louisiana growing conditions. The yam, which grocers and wholesalers now request by name, contributes \$68.4 million in gross farm income and \$24 million in value-added income per year.
- **Nothing to spit at.** Seedless watermelon production got a boost from **Delaware** Extension studies on the suitability of seedless watermelons for the state’s climate and soils. In just five years, seedless watermelon acreage went from zero to 1,200 acres. With 30 percent of the market and a four cents-per-pound premium, the crop is worth \$1.9 million in additional farm income.
- **Leaner lambs.** Researchers in **Idaho** took advantage of a genetic mutation in sheep that produced animals with larger loins and legs but less fat. “Callipyge”

RESEARCH,  
EDUCATION, AND  
EXTENSION  
AT WORK

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sheep with better feed efficiency, leaner yield, and larger portion size could add a profit of \$12 per lamb to a declining state industry.

- **Tall timber.** Foresters at **Ohio State** are working to develop a value-added market for large Eastern White Pines. Fifty-year-old trees, planted to rehabilitate abandoned strip mines, now are big enough to use for lumber instead of for paper and pallets. If successful, the value of the trees could go from \$75 per thousand board feet to \$200 per thousand board feet.
- **Heart-healthy.** A new soybean could help Americans reduce their risk of heart attack. **Iowa State** researchers have created a soybean with half the saturated fat of regular soybean oil. Marketing of LoSatSoy just started, but the low-fat bean oil could replace canola oil imports from Canada. For salt lovers, **Michigan** corn researchers have developed a sodium substitute—made from cornstarch—that tastes better than existing products and represents a new market for U.S. corn.
- **Protecting profits.** A heavy late-season rain just before harvest can put a crack in a sweet cherry and chisel several million dollars from Michigan's \$15.7 million sweet cherry crop. **California, Michigan, and Washington** researchers worked together to build an automated calcium chloride sprinkler system that prevents cracking. The new system saves growers \$9,400 per acre. Applying soluble calcium to Idaho potatoes has been shown to reduce tuber defects and bacterial soft rot. Applied during hot spells, the treatment also can shield the field from yield losses of \$500 per acre.
- **Big Blue.** The floral industry had bemoaned the lack of a blue flower until **Texas** researchers came up with a long-stemmed Texas-sized bluebonnet suitable for the cut flower business. The deep blue state flower could also mean big green: a 10 percent market share would create 1,100 jobs in the state, for an economic impact of \$100 million.

- **Power plants.** Researchers in **Minnesota** proposed a power plant that produces electricity from alfalfa stems. Now under construction, the plant will be the first of its kind in the country and will create 200 new jobs. **Iowa** scientists are working on replacing 5 percent of the coal burned at one power plant with switchgrass, a cleaner burning, renewable-resource plant that's great for holding down highly erodible soils as well as fuel costs.
- **Green pays.** Sixty-two **Utah** ranches are earning extra income through the state wildlife management program. Working with university specialists and others to enhance land for game species and other native animals, the ranchers have generated more than \$10 million in new revenue through fee-based hunting. The arrangement also allows public access for 2,000 state hunters.
- **An apple from the teacher.** Apple storage is difficult for small and medium-sized growers in the **Midwest**, where controlled-atmosphere storage units can cost more than \$1 million. **Minnesota** scientists developed the "Honeycrisp" apple variety, which keeps two to four times longer under normal refrigeration than other apples. Orchards are adopting the new variety at a record pace.



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